Notice of Allowability	Application No.	Applicant(s)	
	10/732,003	WANG ET AL.	
	Examiner	Art Unit	
	Richard Chan	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *11/17/06*.

2. ☒ The allowed claim(s) is/are *2-4,6,8,9,11,12,17,18,22,23,27-29,31,33,34,36,37,41,43,47 and 48*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION

Allowable Subject Matter

1. Claims 2-4, 6, 8, 9, 11, 12, 17, 18, 22, 23, 27-29, 31, 33, 34, 36, 37, 41, 43, 47, and 48 are allowed.

2. The following is an examiner's statement of reasons for allowance:

With respect to claim 2, Inuma discloses a method for operating a wireless communication system receiver comprising of receiving a plurality of input signal 301-304; weighting said plurality of input signals with 317, 318, 321, and 324 (Col6. lines 43-53); and combining said weighted plurality of signals with combiner 325 and 326 to form an output signal, wherein weights used in said weighting step are adjusted to increase power in said output signal of in-band components and decrease power in said output signal of out of band components, however the prior art does not disclose wherein said weights are determined by maximal ratio combining, to align phases of said input signals to the same phase and to scale said input signals in proportion to a square root of a received signal to noise ratio.

Claims 3, 4, 6, 8, 9, 11, 12, 17, and18 are dependent on allowable claim 2.

With respect to claim 22, Voyer discloses wherein a method for operating a transmit and receive beam forming system comprising the steps of: receiving a plurality of input signals with antennas 300; weighting said plurality of input signals with weights (Col.1 lines 14-27), weights are adjusted to increase power in said output signal of in-band components and decrease power in said output signal of out of band components; and combining said weighted plurality of signals to form an output signal; transmitting a beam with beam formers 310 towards a desired signal detecting wherein a complex conjugate with conjugation modules 530 said weights are used for transmitting said beam and wherein after step b. said weights are frozen and said weights are applied for transmitting in step d. (Col.1 lines 14-29) the weights value must be maintained in order to create a transmitting beam, however the prior art does not disclose wherein said input signal is a time division duplex signal and a control signal is used to freeze said weights at an end of packet and use said weights for transmitting a signal in step d.

Claim 23 is dependent on allowable claim 22.

With respect to claim 27, Inuma discloses a method for operating a wireless communication system receiver comprising of receiving a plurality of input signal 301-304; weighting said plurality of input signals with 317, 318, 321, and 324 (Col6. lines 43-53); and combining said weighted plurality of signals with combiner 325 and 326 to form an output signal, wherein weights used in said weighting step are adjusted to increase power in said output signal of in-band components and decrease power in said output

signal of out of band components, however the prior art does not disclose wherein said weights are determined maximal ratio combining to align phases of said input signal to the same phase and to scale input signals in proportion to a square root of a received signal to noise ratio.

Claims 28, 29, 31, 33, 34, 36, 37, 41, and 43 are dependent on allowable claim 27.

With respect to claim 47, Voyer discloses wherein a method for operating a transmit and receive beam forming system comprising the steps of: receiving a plurality of input signals with antennas 300; weighting said plurality of input signals with weights (Col.1 lines 14-27), weights are adjusted to increase power in said output signal of in-band components and decrease power in said output signal of out of band components; and combining said weighted plurality of signals to form an output signal; transmitting a beam with beam formers 310 towards a desired signal detecting wherein a complex conjugate with conjugation modules 530 said weights are used for transmitting said beam and wherein after step b. said weights are frozen and said weights are applied for transmitting in step d. (Col.1 lines 14-29) the weights value must be maintained in order to create a transmitting beam, however the prior art does not disclose wherein said control signal occurs at an end of a preamble of said packet and when said control signal occurs said weights are frozen and are used in said means for transmitting.

Claim 48 is dependent on allowable claim 47.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Chan whose telephone number is (571) 272-0570. The examiner can normally be reached on Mon - Fri (9AM - 5PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edan Orgad can be reached on (571)272-7884. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Richard Chan
Art Division 2618
12/6/06

EDAN ORGAD
PATENT EXAMINER/TELECOMM.
12/9/06